



BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA

**FILED**

12-17-07  
04:59 PM

Order Instituting Rulemaking to Implement the  
Commission's Procurement Incentive Framework  
and to Examine the Integration of Greenhouse Gas  
Emissions Standards into Procurement Policies.

Rulemaking 06-04-009  
(Filed April 13, 2006)

**REPLY COMMENTS OF TURN ON TYPE AND  
POINT OF REGULATION ISSUES**



Marcel Hawiger, Staff Attorney

**THE UTILITY REFORM NETWORK**

711 Van Ness Avenue, Suite 350  
San Francisco, CA 94102  
Phone: (415) 929-8876 ex. 311  
Fax: (415) 929-1132  
Email: [marcel@turn.org](mailto:marcel@turn.org)

December 17, 2007

## **REPLY COMMENTS OF TURN ON TYPE AND POINT OF REGULATION ISSUES**

Pursuant to the Administrative Law Judges' Ruling "Requesting Comments on Type and Point of Regulation Issues" of November 9, 2007 and the subsequent Ruling "Extending Comment Deadlines and Addressing Procedural Matters" of November 30, 2007, The Utility Reform Network (TURN) files these reply comments. TURN did not file opening comments responding to the various questions posed in the November 9<sup>th</sup> Ruling (ALJ Ruling). TURN has reviewed many of the comments submitted on December 3, 2007, the document attached to the ALJ Ruling as well as the Opinion submitted by the Market Surveillance Committee of the ISO ("MSC Opinion") on November 27, 2007.<sup>1</sup> TURN has addressed certain points concerning the appropriate point of regulation in our comments on allowance allocation filed on October 31, 2007.

TURN concludes that the analyses presented to date raise a significant concern that adoption of a source-based (or first seller) regulatory framework could significantly increase the costs of electricity for California ratepayers without contributing to GHG reductions. Moreover, although many parties support source-based regulation, there appears to be consensus that no cap and trade system for California's electric sector can account for unspecified imported electricity, so that California could end up paying for phantom GHG reductions that simply reflect contract shuffling.

---

<sup>1</sup> "Opinion on 'Load-Based and Source-Based Trading of Carbon Dioxide in California,'" Frank A. Wolak, et al., Market Surveillance Committee of the California Independent System Operator, November 27, 2007. Included as an attachment to the December 3<sup>rd</sup> comments of the ISO.

Many parties urge moving forward with a system of emissions allowances and cap and trade so as to ‘lead the way’ for a national or regional system, even though these same parties admit that a statewide-only system will fail to reduce GHG emissions. TURN recommends, instead, that the California Public Utilities and Energy Commissions recommend to the Air Resources Board that any cap and trade system adopted for 2012 *exclude the electric generation sector*. The state would be better served by promoting existing policies that result in real GHG reductions, by developing a comprehensive regional tracking system for greenhouse gases and by deferring the implementation of a cap and trade system for the electric sector pending further regional or national developments.

Alternatively, TURN recommends that the Commission seek further research assistance to analyze the feasibility and relative benefits of a load-based regulatory system using tradable emission attribute certificates (TEACs). Such a system allows integration with least cost dispatch and could be implemented through the WREGIS platform.

1. The Cost Impacts of Load-Based versus Source-Based Regulation

The analysis presented at the *En Banc* Joint Hearing by Synapse Energy, Inc., showed that a source-based system would increase wholesale energy prices because the allowance cost for the marginal generator would set the Market Clearing Price for all power. It is highly likely that the marginal unit would be less efficient (thus require more allowances) than the average unit bidding in for the hour, so that the hourly wholesale price includes an allowance cost that exceeds the actual cost of carbon allowances for power dispatched during the hour.

Mr. Biewald calculated that a \$30/ton carbon allowance price, which represents an additional annual cost of approximately \$300 million per year to reduce carbon emissions by 10%, would increase annual wholesale power costs by two to four *billion dollars* due to its impact on the market clearing price in the wholesale market.

The MSC Opinion agrees that a source-based system will result in these “rents of clean generation” if the average emissions rate for all generation units is less than the marginal emissions rate that causes the price increase. However, the MSC Opinion concludes that there would be no cost savings under a load-based system, because in that case the LSEs will contractually “pay more for electricity from cleaner generators, because that generation is more effective in helping the LSEs meet their emissions constraint.”<sup>2</sup> The MSC analysis concludes that the “implicit cost” paid by LSEs to cleaner generators “will be the same as the price of allowances in a source-based system with the same GHG target.”

The MSC Opinion reaches its conclusions by modeling the behavior of a seller and buyer under both load-based or source-based regimes. While TURN does not dispute the theoretical modeling result, TURN notes that the conclusion that the ‘implicit cost’ of clean generation will exactly match the increased market clearing price of energy assumes a perfectly competitive market with full information parity between one buyer and seller maximizing their respective profit functions subject to emissions constraints.

---

<sup>2</sup> MSC Opinion, p. 5. The MAC report explicitly assumes that under a source-based system *all allowance* proceeds are returned to customers. This may be a bit more complicated in reality if the auction revenues flow into the General Fund.

TURN urges caution in concluding that, at least in the short term, a load-based market would result in costs immediately rising due to every seller of cleaner generation extracting the opportunity cost of its reduced emissions profile. It may be that in the long run market participants will calibrate their negotiations so as to behave in this way. However, in the short run a load-based system may result in cost savings to the LSE buyers of electricity. And in the long run we may have to integrate with a different regulatory regime altogether.

Regrettably, none of the twenty-nine questions in the ALJ Ruling asked directly about the potential impact on total ratepayer costs of the different regulatory mechanisms, despite the fact that “cost minimization” was the second stated objective for evaluating design options. Thus, the record is quite thin concerning this issue. Several parties explained how a load-based system could increase costs due to less efficient dispatch as “LSEs use more unit-specific contracts in lieu of economic unspecified energy, resulting in a thin day-ahead spot market.”<sup>3</sup>

But parties seemed to agree that a system with tradable emissions attribute certificates (TEACs) allowed the use of load-based regulation without hindering least-cost dispatch through the ISO’s forward market, though some contended that establishing a TEAC market mechanism would be costly and inefficient.<sup>4</sup> Other

---

<sup>3</sup> See, for example, PG&E Comments, pp. 8-9. This is essentially the argument of the MSC Opinion concerning the potential increased costs under load-based regulation.

<sup>4</sup> See, for example, PG&E Comments, pp. 9-10; SCE Comments, p. 7; DRA Comments, pp. 7-8.

parties noted, however, that a TEAC system could be integrated into the WREGIS tracking and trading platform.<sup>5</sup>

TURN recommends that the Commission request that additional research be conducted concerning the viability of load-based regulation, with or without TEACs, by any of the existing organizations that are capable of providing such support.<sup>6</sup>

In this respect, TURN highlights the following comments from PG&E:

The TEACs system could internalize the value of low GHG emitting generation in the dispatch decision by decreasing the marginal cost of lower emitting resources more than it decreases the cost of higher emitting resources. Unlike the other options of the load based cap, it is possible to maintain least cost dispatch with this option. TEACs also solve the problem of the power pool, giving utilities control over their emissions profile.

From a ratepayer perspective, “decreasing the marginal cost” of power bidding into the market appears preferable to increasing the cost of all power by the allowance cost included in the bid of the least efficient marginal unit.

## 2. The Potential Pitfalls of Rushing to a Source-Based Cap And Trade System Warrant Delay

In response to Question 2, many parties supported adopting the ‘cap and trade’ system due to their belief that a ‘market’ system will stimulate new technologies and GHG reduction measures. No party pointed to specific GHG reduction measures that might be promoted other than those already being pursued due to existing requirements

---

<sup>5</sup> See, Comments of AReM, GPI.

<sup>6</sup> TURN notes that programs such as the Regulatory Assistance Project and the National Renewable Energy Laboratory appear to be viable candidates for such work.

for energy efficiency and renewable procurement.<sup>7</sup> Several parties pointed out that due to the lack of ‘GHG control technologies,’ the basic means of reducing GHG emissions is either demand reduction or a shift toward cleaner emitting resources. While TURN fully understands that no one can predict technological invention spurred by market incentives, we fail to see how increasing the costs of high-carbon power will spur new reductions in the electric sector given the existing requirements to purchase renewable energy under the RPS.

One advantage of a statewide cap, of course, is the possibility that other sectors (transportation, industrial) included under the cap may have cheaper means of achieving incremental carbon reductions (i.e. lower marginal costs) and would thus be sources of allowances. No party addressed one of the fundamental issues for electric sector GHG reduction – how will allowance trading spur the replacement of coal-fired generation with cleaner power? This is not a theoretical question, but rather a question of the level of allowance cost that would cause the variable price of coal power to move from the most economic to the least economic in the dispatch order. Given the relative variable costs of power, the equivalent per MWH allowance cost may have to be extremely high.

TURN can easily envision a scenario where the entities in the electric sector (either generators or LSEs) purchase allowances such that the cost of electricity increases without changing the dispatch order or reducing emissions. Consumers will simply pay

---

<sup>7</sup> Mr. Burtraw did point to some examples of harvesting operational efficiencies. It is difficult to understand why generators would not implement those operational efficiencies (reducing heat rates) already, since they would lower variable operating costs. See, Burtraw, November 9, 2007, p. 14.

higher costs. This may be an efficient outcome from an economic perspective, but may not be the desired policy outcome.<sup>8</sup>

Despite assertions by many parties that a first seller approach is superior to a load-based approach for controlling power imports, there was actually no refutation of the fact that both methods have to rely on an assumed emissions factor for unspecified imports. The only advantage of the first seller approach is less need for tracking power once it arrives in California. No California-only system of regulation can effectively address the over 50% of GHG emissions due to imports.

Nevertheless, the majority of parties urged the Commission to include the electric sector within a cap and trade regime using a first-seller point of regulation. Many parties believe that such action will enable California to influence the eventual design of a regional or national system. Some parties (NRDC/UCS) see the point of regulation as a less important factor and urge progress so as to adopt a key parameter – a declining statewide cap for emissions.

TURN suggests that the potential pitfalls of such a gamble do not warrant rushing blindly to a market-based cap and trade system just to lead the pack. Especially not if we are leading the pack to a path of higher wholesale energy prices.

TURN thus agrees with the Green Power Institute that rather than focusing on a statewide design for regulating GHG emission from the electric sector, this Commission should instead focus on 1) developing a comprehensive regional tracking system for greenhouse gases, and 2) developing a regional approach to controlling GHG emissions.<sup>9</sup>

---

<sup>8</sup> See, for example, WPTF Comments, p. 2-3.

<sup>9</sup> See, GPI Comments, pp. 8-9.



### 3. Conclusion

While TURN appreciates the desire to move forward with a cap and trade system that will advance the goals of AB 32 and capture the economic benefits of a cap and trade system, we suggest that existing information indicates that a statewide emissions allowance system for the electric sector will not solve the problem of imported system power. Moreover, despite the conclusions of the Market Advisory Committee, we continue to be concerned that at least in the short run the increase in wholesale prices due to allowance costs will increase costs more than direct command and control regulation.

For these reasons, TURN urges the Commission not to recommend a cap and trade system for the electric sector at this time, but to focus on improving tracking mechanisms and promoting a regional system. However, if the Commission chooses to promote a cap and trade system, TURN recommends further research into the merits of a load-based system using tradable emissions attribute certificates (TEACs).

Lastly, TURN reiterates that whatever system is adopted, our primary concern is that the value of allowances be fully captured for utility customers. In no case should the Commission adopt a free allocation to generators approach.<sup>10</sup>

---

<sup>10</sup> The MAC Opinion is premised in the first instance on the assumption that even under a source-based system *all* allowances are “owned by consumers” so that auction proceeds are “returned to consumers.”

December 17, 2007

Respectfully submitted,

By: /S/  
Marcel Hawiger, Staff Attorney

## THE UTILITY REFORM NETWORK

711 Van Ness Avenue, Suite 350

San Francisco, CA 94102

Phone: (415) 929-8876, ex. 311

Fax: (415) 929-1132

Email: [marcel@turn.org](mailto:marcel@turn.org)

CERTIFICATE OF SERVICE

I, Larry Wong, certify under penalty of perjury under the laws of the State of California that the following is true and correct:

On December 17, 2007 I served the attached:

**REPLY COMMENTS OF TURN ON TYPE AND  
POINT OF REGULATION ISSUES**

on all eligible parties on the attached lists to **R.06-04-009**, by sending said document by electronic mail to each of the parties via electronic mail, as reflected on the attached Service List.

Executed this December 17, 2007, at San Francisco, California.

/S/

Larry Wong

### Service List for R.06-04-009

abb@eslawfirm.com	aeg@cpuc.ca.gov
abonds@thelen.com	agc@cpuc.ca.gov
achang@nrdc.org	blm@cpuc.ca.gov
adamb@greenlining.org	cf1@cpuc.ca.gov
agrimaldi@mckennalong.com	cft@cpuc.ca.gov
aimee.barnes@ecosecurities.com	cpe@cpuc.ca.gov
ajkatz@mwe.com	dil@cpuc.ca.gov
akbar.jazayeri@sce.com	dks@cpuc.ca.gov
akelly@climatetrust.org	dsh@cpuc.ca.gov
alan.comnes@nrgenergy.com	edm@cpuc.ca.gov
aldyn.hoekstra@paceglobal.com	eks@cpuc.ca.gov
alho@pge.com	fjs@cpuc.ca.gov
amber@ethree.com	hs1@cpuc.ca.gov
andrew.bradford@constellation.com	hym@cpuc.ca.gov
andrew.mcallister@energycenter.org	jbf@cpuc.ca.gov
andy.vanhorn@vhcenergy.com	jci@cpuc.ca.gov
anita.hart@swgas.com	jf2@cpuc.ca.gov
annabelle.malins@fco.gov.uk	jk1@cpuc.ca.gov
Anne-Marie_Madison@TransAlta.com	jm3@cpuc.ca.gov
annette.gilliam@sce.com	jnm@cpuc.ca.gov
apak@sempraglobal.com	jol@cpuc.ca.gov
arno@recurrentenergy.com	jst@cpuc.ca.gov
atrial@sempra.com	jtp@cpuc.ca.gov
atrowbridge@daycartermurphy.com	krd@cpuc.ca.gov
Audra.Hartmann@Dynergy.com	lrm@cpuc.ca.gov
aweller@sel.com	ltt@cpuc.ca.gov
bbaker@summitblue.com	mjd@cpuc.ca.gov
bbeebe@smud.org	ner@cpuc.ca.gov
bblevins@energy.state.ca.us	psp@cpuc.ca.gov
bcragg@goodinmacbride.com	pw1@cpuc.ca.gov
bdicapo@caiso.com	pzs@cpuc.ca.gov
bernardo@braunlegal.com	ram@cpuc.ca.gov
beth@beth411.com	rmm@cpuc.ca.gov
Betty.Seto@kema.com	scr@cpuc.ca.gov
bill.chen@constellation.com	sgm@cpuc.ca.gov
bill.schrand@swgas.com	smk@cpuc.ca.gov
bjeider@ci.burbank.ca.us	svn@cpuc.ca.gov
bjl@bry.com	tam@cpuc.ca.gov
bjones@mjb Bradley.com	tcx@cpuc.ca.gov
bkc7@pge.com	wsm@cpuc.ca.gov
bmcc@mccarthy law.com	
bmcquown@reliant.com	
Bob.lucas@calobby.com	
bpotts@foley.com	
bpurewal@water.ca.gov	
brabe@umich.edu	
brbarkovich@earthlink.net	
BRBc@pge.com	
brenda.lemay@horizonwind.com	
burtraw@rff.org	
bushinskyj@pewclimate.org	
bwallerstein@aqmd.gov	
C_Marnay@lbl.gov	

cadams@covantaenergy.com  
californiadockets@pacificorp.com  
carla.peterman@gmail.com  
carter@ieta.org  
case.admin@sce.com  
cathy.karlstad@sce.com  
cbaskette@enernoc.com  
cbreidenich@yahoo.com  
cchen@ucsusa.org  
cem@newsdata.com  
charlie.blair@delta-ee.com  
chilen@sppc.com  
cjlw5@pge.com  
ckmitchell1@sbcglobal.net  
ckrupka@mwe.com  
clarence.binninger@doj.ca.gov  
clark.bernier@rlw.com  
clyde.murley@comcast.net  
cmkehrein@ems-ca.com  
colin.petheram@att.com  
cpechman@powereconomics.com  
cswollums@midamerican.com  
curt.barry@iwpnews.com  
curtis.kebler@gs.com  
Cynthia.A.Fonner@constellation.com  
cynthia.schultz@pacificorp.com  
daking@sempra.com  
Dan.adler@calcef.org  
danskopec@gmail.com  
dansvec@hdo.net  
dave@ppallc.com  
david.zonana@doj.ca.gov  
david@branchcomb.com  
david@nemtzw.com  
davidreynolds@ncpa.com  
dbrooks@nevp.com  
deb@a-klaw.com  
deborah.slom@doj.ca.gov  
dehling@klng.com  
derek@climaterestry.org  
dhecht@sempratrading.com  
dhuard@manatt.com  
Diane\_Fellman@fpl.com  
dietrichlaw2@earthlink.net  
dkk@eslawfirm.com  
dmacmull@water.ca.gov  
dmetz@energy.state.ca.us  
dniehaus@semprautilities.com  
douglass@energyattorney.com  
dseperas@calpine.com  
dsoyars@sppc.com  
dtibbs@aes4u.com  
dwang@nrdc.org  
dwood8@cox.net

dws@r-c-s-inc.com  
echiang@elementmarkets.com  
egw@a-klaw.com  
ehadley@reupower.com  
ej\_wright@oxy.com  
ek@a-klaw.com  
ekgrubaug@iid.com  
ELL5@pge.com  
elvine@lbl.gov  
emahlon@ecoact.org  
emello@sppc.com  
epoole@adplaw.com  
e-recipient@caiso.com  
etiedemann@kmtg.com  
ewolfe@resero.com  
ez@pointcarbon.com  
farrokh.albuyeh@oati.net  
fiji.george@elpaso.com  
filings@a-klaw.com  
fstern@summitblue.com  
fwmonier@tid.org  
gbarch@knowledgeinenergy.com  
gblue@enxco.com  
george.hopley@barcap.com  
ghinners@reliant.com  
GloriaB@anzaelectric.org  
glw@eslawfirm.com  
gmorris@emf.net  
gpickering@navigantconsulting.com  
gregory.koiser@constellation.com  
grosenblum@caiso.com  
gsmith@adamsbroadwell.com  
gxl2@pge.com  
harveyederpspc.org@hotmail.com  
hayley@turn.org  
hcronin@water.ca.gov  
hgolub@nixonpeabody.com  
hoerner@redefiningprogress.org  
hurlock@water.ca.gov  
HYao@SempraUtilities.com  
info@calseia.org  
jack.burke@energycenter.org  
Jairam.gopal@sce.com  
james.keating@bp.com  
janill.richards@doj.ca.gov  
jarmstrong@goodinmacbride.com  
jason.dubchak@niskags.com  
jbw@slwplc.com  
jchamberlin@strategicenergy.com  
JDF1@PGE.COM  
jdh@eslawfirm.com  
jdoll@arb.ca.gov  
jeanne.sole@sfgov.org  
jeffgray@dwt.com

jen@cnt.org  
jenine.schenk@apses.com  
jennifer.porter@energycenter.org  
JerryL@abag.ca.gov  
jesus.arredondo@nrgenergy.com  
jgill@caiso.com  
jgreco@caithnessenergy.com  
jhahn@covantaenergy.com  
jimross@r-c-s-inc.com  
jj.prucnal@swgas.com  
jjensen@kirkwood.com  
jkarp@winston.com  
jkloberdanz@semprautilities.com  
jlaun@apogee.net  
jleslie@luce.com  
jluckhardt@downeybrand.com  
jody\_london\_consulting@earthlink.net  
Joe.paul@dynegy.com  
john.hughes@sce.com  
johnredding@earthlink.net  
josephhenri@hotmail.com  
joyw@mid.org  
jsanders@caiso.com  
jscancarelli@flk.com  
jsqueri@gmssr.com  
julie.martin@bp.com  
jwiedman@goodinmacbride.com  
jwmctarnaghan@duanemorris.com  
jxa2@pge.com  
karen@klindh.com  
karla.dailey@cityofpaloalto.org  
Kathryn.Wig@nrgenergy.com  
kbowen@winston.com  
kcolburn@symbioticstrategies.com  
kdusel@navigantconsulting.com  
kdw@woodruff-expert-services.com  
keith.mccrea@sablau.com  
kellie.smith@sen.ca.gov  
kelly.barr@srpnet.com  
ken.alex@doj.ca.gov  
kenneth.swain@navigantconsulting.com  
kerry.hattevik@mirant.com  
kevin.boudreaux@calpine.com  
kfox@wsgr.com  
kgough@calpine.com  
kgrenfell@nrdc.org  
kgriffin@energy.state.ca.us  
kjinovation@earthlink.net  
kjsimonsen@ems-ca.com  
kkhoja@thelenreid.com  
klatt@energyattorney.com  
kmills@cbbf.com  
kmkiener@fox.net  
kowalewskia@calpine.com

kyle.l.davis@pacificorp.com  
kyle.silon@ecosecurities.com  
kyle\_boudreaux@fpl.com  
lars@resource-solutions.org  
Laura.Genao@sce.com  
lcottle@winston.com  
ldecarlo@energy.state.ca.us  
leilani.johnson@ladwp.com  
liddell@energyattorney.com  
lisa.c.schwartz@state.or.us  
lisa\_weinzimer@platts.com  
llorenz@semprautilities.com  
llund@commerceenergy.com  
lmh@eslawfirm.com  
Lorraine.Paskett@ladwp.com  
lpark@navigantconsulting.com  
lrdevanna-rf@cleanenergysystems.com  
lschavrien@semprautilities.com  
ltenhope@energy.state.ca.us  
marcel@turn.org  
marcie.milner@shell.com  
mary.lynch@constellation.com  
mclaughlin@braunlegal.com  
mdjoseph@adamsbroadwell.com  
mflorio@turn.org  
mgarcia@arb.ca.gov  
mgillette@enernoc.com  
mhyams@sfwater.org  
Mike@alpinenaturalgas.com  
mmattes@nossaman.com  
mmazur@3phasesRenewables.com  
monica.schwebs@bingham.com  
mpa@a-klaw.com  
mprior@energy.state.ca.us  
mrw@mrwassoc.com  
mscheibl@arb.ca.gov  
mwaugh@arb.ca.gov  
nenbar@energy-insights.com  
nes@a-klaw.com  
nlenssen@energy-insights.com  
norman.furuta@navy.mil  
notice@psrec.coop  
npedersen@hanmor.com  
nsuetake@turn.org  
ntronaas@energy.state.ca.us  
nwhang@manatt.com  
obartho@smud.org  
obystrom@cera.com  
ofoote@hkcf-law.com  
pbarthol@energy.state.ca.us  
pburmich@arb.ca.gov  
pduvair@energy.state.ca.us  
pepper@cleanpowermarkets.com  
phanschen@mofo.com



Philip.H.Carver@state.or.us  
philm@scdenergy.com  
pjazayeri@stroock.com  
ppettingill@caiso.com  
pseby@mckennalong.com  
pssed@adelphia.net  
pstoner@lgc.org  
pthompson@summitblue.com  
pvallen@thelen.com  
rachel@ceert.org  
ralph.dennis@constellation.com  
randy.howard@ladwp.com  
randy.sable@swgas.com  
rapcowart@aol.com  
ray.welch@navigantconsulting.com  
rhelgeson@scppa.org  
RHHJ@pge.com  
rhwiser@lbl.gov  
richards@mid.org  
rick\_noger@praxair.com  
rita@ritanortonconsulting.com  
rkeen@manatt.com  
rkmoore@gswater.com  
rmccann@umich.edu  
rmiller@energy.state.ca.us  
rmorillo@ci.burbank.ca.us  
robert.pettinato@ladwp.com  
Robert.Rozanski@ladwp.com  
roger.montgomery@swgas.com  
rogerv@mid.org  
ron.deaton@ladwp.com  
rprince@semprautilities.com  
rreinhard@mofo.com  
rrtaylor@srpnet.com  
rsa@a-klaw.com  
rschmidt@bartlewells.com  
rsmutny-jones@caiso.com  
rwinthrop@pilotpowergroup.com  
ryan.flynn@pacificorp.com  
S1L7@pge.com  
saeed.farrokhpay@ferc.gov  
samuel.r.sadler@state.or.us  
sandra.carolina@swgas.com  
Sandra.ely@state.nm.us  
sas@a-klaw.com  
sasteriadis@apx.com  
sbeatty@cwclaw.com  
sberlin@mccarthy.com  
sbeserra@sbcglobal.net  
scarter@nrdc.org  
scohn@smud.org  
scott.tomashefsky@ncpa.com  
scottanders@sandiego.edu  
sdhilton@stoel.com

sellis@fypower.org  
sendo@ci.pasadena.ca.us  
sephra.ninow@energycenter.org  
slins@ci.glendale.ca.us  
sls@a-klaw.com  
smichel@westernresources.org  
smindel@knowledgeinenergy.com  
snewsom@semprautilities.com  
spauker@wsgr.com  
sscb@pge.com  
ssmyers@att.net  
steve.koerner@el Paso.com  
steve@schiller.com  
stevek@kromer.com  
steven.huhman@morganstanley.com  
steven.schleimer@barclayscapital.com  
steven@iepa.com  
steven@lipmanconsulting.com  
steven@moss.net  
svongdeuane@semprasolutions.com  
svs6@pge.com  
tburke@sflower.org  
tcarlson@reliant.com  
tdarton@pilotpowergroup.com  
tdillard@sierrapacific.com  
THAMILTON5@CHARTER.NET  
thunt@cecmail.org  
tiffany.rau@bp.com  
tim.hemig@nrgenergy.com  
todil@mckennalong.com  
Tom.Elgie@powerex.com  
tomb@crossborderenergy.com  
tomk@mid.org  
trdill@westernhubs.com  
troberts@sempra.com  
UHelman@caiso.com  
vb@pointcarbon.com  
vitaly.lee@aes.com  
vjw3@pge.com  
vprabhakaran@goodinmacbride.com  
vwelch@environmentaldefense.org  
wbooth@booth-law.com  
westgas@aol.com  
william.tomlinson@el Paso.com  
wtasat@arb.ca.gov  
www@eslawfirm.com  
wynne@braunlegal.com  
ygross@sempraglobal.com  
zaiontj@bp.com